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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,424	09/26/2006	Habin Lee	36-2024	9308
23117 7590 12/09/2008 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
COONEY, ADAM A				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/594,424

Applicant(s)

LEE ET AL.

Examiner

ADAM COONEY

Art Unit

2444

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-893)
Paper No(s)/Mail Date 1/17/2007
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
2. On page 17 line 22, "STEP 810" should be --STEP 710--.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
4. Regarding claims 1-9, the claims do not meet the requirements of a patent eligible process. Based on Supreme Court precedent (see, i.e. *Diamond v. Diehr*, 450 U.S. 175,184 or *Parker v. Flook*, 437 U.S. 584,588 n.9) and recent Federal Circuit decisions, a process must (1) be tied to another statutory class, i.e. machine or manufacture, or (2) transform underlying subject matter, i.e. such as an article or materials, to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-25 are rejected under 35 U.S.C. 102(a) as being anticipated by Flexible Agent System for Change Adaptation in Supply Chains, Ahn et al., 2003 (hereinafter FAS).
6. Regarding claims 1 and 10, the FAS reference teaches a method and a means of communicating between software agents in a multi- agent system, comprising the steps of: receiving, at a software agent of said system, a conversation model (conversation policy model) defining a sequence of executable tasks for implementing a role in a conversation between agents (see section 2.3 lines 12-15 and section 3.3 first paragraph; conversation policy is partially ordered sequences of messages that guide and restrict the exchange of agent messages for specific objectives); identifying ontology items used in the conversation model in respect of said role (see section 3.3 first paragraph lines 11-22 and second paragraph lines 10-14; a receiver agent identifies the ontology item by a parameter and using the conversation policy definition); determining, for each identified ontology item, whether the software agent is operable to provide or to process the identified ontology item (see section 3.3 second paragraph lines 6-10; by using the explicit parameters the agent can understand incoming messages clearly and prepare outgoing messages using their internal knowledge that corresponds to the ontology item); and in the event that the result of said determining is positive, executing the conversation model to implement said role in the conversation (see section 3.3 third paragraph and Figure 6; shows conversation policies defined by the conversation policy model being executed)
7. Regarding claims 2 and 13, the FAS reference teaches all the limitations of claim 1 and 10, as discussed above. Further, FAS teaches wherein the conversation model includes one or more message models defining, in respect of a particular service, messages referenced in the conversation model (see section 3.3 first paragraph lines 9-13 and second paragraph lines 18-21;

message types are request, inform and query, also messages are classified in 3 categories, i.e. activity type, reference for query type and proposition type).

8. Regarding claims 3 and 14, the FAS reference teaches all the limitations of claims 1 and 10, as discussed above. Further, FAS teaches wherein said determining step and means comprises: to identify at least one behaviour model which, when executed by the agent, is operable to provide or to process the identified ontology item (see section 3.3 second paragraph lines 6-10; using their internal knowledge agents able to prepare outgoing messages); and to identify, in respect of a particular service, a message model defining each message referenced in the conversation model (see section 3.3 second paragraph lines 10-30).

9. Regarding claims 4 and 15, the FAS reference teaches all the limitations of claims 3 and 14, as discussed above. Further, FAS teaches wherein identifying said at least one behaviour comprises determining whether said at least one behaviour is operable to generate the ontology item as an output ontology item, and wherein if said at least one behaviour requires an input ontology item, determining whether the input ontology item is available in a fact base (internal knowledge) of the agent or may be produced as an output ontology item by another behaviour available to the agent (see section 3.3 second paragraph lines 6-16).

10. Regarding claims 5 and 16, the FAS reference teaches all the limitations of claims 1 and 10, as discussed above. Further, FAS teaches wherein the conversation model defines an agent conversation previously unknown to the agent (see section 3.4 second paragraph; unknown OrderRequestNewCPU conversation policy, buyer agent sends a query about it).

11. Regarding claims 6 and 17, the FAS reference teaches all the limitations of claims 1 and 10, as discussed above. Further, FAS teaches wherein the conversation model defines a plurality

of roles in an inter-agent conversation (see section 3.3 first paragraph lines 17-22; initiator and counterpart roles), each role comprising a linked sequence (transitions) of tasks which when executed by a software agent implement corresponding stages in a conversation (see section 3.3 first paragraph lines 6-11), and wherein a task is linked to another task in the role by means of a connector representative of either the receipt of a message from, or the output of a message to another agent implementing a complementary role defined in the conversation model (see section 3.5 first paragraph lines 16-33; conversation manager provides links for task handlers).

12. Regarding claim 7, the FAS reference teaches all the limitations of claim 1, as discussed above. Further, FAS teaches wherein the software agent implements an initiator role defined in the conversation model and another software agent implements a responder role defined in the conversation model (see section 3.3 first paragraph lines 17-22; initiator role and counterpart role).

13. Regarding claims 8 and 19, the FAS reference teaches all the limitations of claims 1 and 10, as discussed above. Further, FAS teaches wherein a task, when executed by the software agent, causes the software agent to receive one or more input messages and to generate one or more output messages (see section 3.3 third paragraph lines 14-20 and Figure 6; for OrderRequestNewCPU the supplier agent sends a queryRef message to the buyer agent, the buyer agent then sends an inform message).

14. Regarding claims 9 and 20, the FAS reference teaches all the limitations of claims 1 and 10, as discussed above. Further, FAS teaches wherein step and means of executing the conversation model comprises selecting, for each task to be executed in respect of said role, one or more behaviours which, when executed by the agent, implement the task (see section 3.3

second paragraph lines 6-17, 22-29 and Figure 6; if agent is able to determine the intentions of the counterpart agent clearly and understand the message contents, it is inherent that the agent selects a behavior to implement the task, since it also is able to prepare an outgoing message).

15. Regarding claim 11, the FAS reference teaches all the limitations of claim 10, as discussed above. Further, FAS teaches wherein said means for executing the conversation model comprise: scheduling means for selecting a task to be executed in the conversation model (see section 4.1 first paragraph lines 7-10; conversation manager controls execution of conversations and provides rules and interfaces that trigger task handlers, therefore once a task handler is triggered a task will be executed); and a task manager arranged with access to a library of behaviours to select one or more behaviours to be executed to implement the selected task (see Figure 9 and Figure 13; task handlers has access to a database, also task handlers have access to conversation policy repertoire of the agent).

16. Regarding claim 12, the FAS reference teaches all the limitations of claim 11, as discussed above. Further, FAS teaches wherein the software agent further comprises a fact base for storing ontology items (see section 3.3 second paragraph lines 6-10; internal knowledge corresponding to an ontology item used to prepare outgoing messages), and wherein behaviours in said library of behaviours are arranged with access to said fact base to obtain input ontology items (see section 3.5 second paragraph lines 7-9, the third paragraph and Figure 9; rules generate new facts and are triggered by incoming messages, as a result interfaces are generated as new intentions or beliefs, the updated beliefs and intentions will trigger a task handler).

17. Regarding claim 18, the FAS reference teaches all the limitations of claim 10, as discussed above. Further, FAS teaches wherein the software agent, when executed, is arranged

to implement an initiator role defined in the conversation model (see section 3.3 first paragraph lines 17-22; initiator role).

18. Regarding claim 21, the FAS reference teaches all the limitations of claim 11, as discussed above. Further, FAS teaches wherein said scheduling means are responsive to receipt, at a message queue, of a message defined in the conversation model in respect of a task to be executed, to schedule execution of said task to be executed (see section 4.1 first paragraph lines 7-10 and Figure 9; conversation manager controls execution of conversations and provides rules and interfaces that trigger task handlers, therefore once a task handler is triggered a task will be executed, also it is implied that if the conversation manager receives incoming messages that there would be a means to store the messages in order to control execution of the conversations).

19. Regarding claim 22, the FAS reference teaches all the limitations of claim 2, as discussed above. Further, FAS teaches wherein said one or more message models comprise an indication of a language, ontology, rules for locating one or more recipients of a respective message, rules for creating one or more ontology items used within the contents of the message, and attributes of the message (see section 3.3 first paragraph lines 8-13 and section 3.5 second paragraph; a message has language types such as request, inform and query also parameters accompany the messages which identify ontology items, further there are sets of rules that handle incoming and outgoing messages).

20. Regarding claim 23, the FAS reference teaches all the limitations of claim 3, as discussed above. Further, FAS teaches wherein said at least one behaviour model defines one or more input ontology items, one or more output ontology items, and the location of an executable file that implements the respective behaviour (see section 3.3 second paragraph lines 6-10; by using

the parameters agents can understand the incoming message contents, i.e. the input ontology item, and prepare outgoing messages, which would include the output ontology item, further the agent uses it's internal knowledge to implement this, therefore it is inherent there is an internal location used to implement).

21. Regarding claim 24, the FAS reference teaches all the limitations of claim 1, as discussed above. Further, FAS teaches wherein the conversation model, in defining a role to be executed, identifies the name of the role and, for each task defined in the role, one or more input messages to be received and one or more output messages (see section 3.3 first paragraph lines 17-22 and Figure 6; in the conversation policy model transitions, messages from an agent to another, are associated with roles such as initiator role or counterpart role).

22. Regarding claim 25, the FAS reference teaches all the limitations of claim 10, as discussed above. Further, FAS teaches a multi-agent system comprising a plurality of computers linked by means of a communications network (see section 4.1 first paragraph lines 14-17) , at least one of said computers being a intermediary server computer for storing conversation models in respect of one or more service providers (see section 3.4 second paragraph lines 11-15; agent stores conversation policy) , and wherein at least one of said computers is operable to execute a software agent as defined according to claim 10 to implement a conversation as defined in a conversation model supplied by said intermediary server computer (see Figure 6; conversation policies being executed by initiator and counterpart agent roles).

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (U.S. 6119101 A) is relevant because it teaches intelligent agents for electronic commerce. (U.S. 2002/0188666 A1) is relevant because it teaches agents having dynamic

service conversations. (U.S. 2003/0204405 A1) is relevant because it teaches a system and method for providing modular conversation policies for agents.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM COONEY whose telephone number is (571)270-5653. The examiner can normally be reached on Monday-Thursday and every other Friday from 730AM-5PM..

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C./
Examiner, Art Unit 2444
12/04/2008

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444